



Presentation to the IT Directional Meeting

**November 19, 2014
Pioneer Room
State Capitol**



Mike Ressler CIO





Agenda

- Introduction and Legislative Bill Drafts (Mike Ressler)
- Software Development Updates (Doran)
 - Mobile app demonstration
 - AppScan/Ethical Hacking updates
- Network Services Updates (Duane)
 - Network updates
 - Wireless update
 - Voice mail upgrade
- Computer Systems Updates (Dean)
 - Desktop Service update
 - Windows 8 and Windows 10 roadmap
 - Mainframe upgrade
- Administrative Services Updates – (Greg)
 - Office 365 Licensing update
 - New ITD Billing System
- Enterprise Systems Update (Gary)
 - Annual Survey Results
 - EA 2.0 – Information Technology Coordinator Council (ITCC)
 - State Login direction
 - Heat 2014 update
 - ITD Cloud Initiatives



Legislative IT Committee Meeting October 30, 2014

Committee Passed 2 Bill Drafts, both affecting Higher Education:

*** E-mail**

- Requiring utilization by each institution under the control and supervision of the board of system wide electronic mail services provided by the board for all public business electronic correspondence.
- Development and implementation of an electronic mail retention policy for the board and institutions under the supervision and control of the board which requires retention of all electronic mail messages for at least five years after the creation or receipt of the message.



Legislative IT Committee Meeting October 30, 2014

Committee Passed 2 Bill Drafts, both affecting Higher Education:

*** E-mail**

- "Agency" means any department, office, commission, board, or other unit, however designated, of the executive branch of state government, including the state board of higher education and the entities under the control of the state board of higher education.



Legislative IT Committee Meeting October 30, 2014

Committee Passed 2 Bill Drafts, both affecting Higher Education:

*** IT Projects**

- The **Information Technology Committee shall receive and review information**, including a project startup report summarizing the project description, project objectives, business need or problem, cost-benefit analysis, and project risks and a project closeout report summarizing the project objectives achieved, project budget and schedule variances, and lessons learned, **from the state board of higher education** regarding any major project of the state board of higher education **or any institution** under the control of the state board of higher education



Legislative IT Committee Meeting October 30, 2014

Committee Passed 2 Bill Drafts, both affecting Higher Education:

*** NDUS CIO Coordination with State Government**

- The chief information officer and the ~~commissioner of the board of higher education~~ chief information officer of the North Dakota university system shall meet at least twice each year to plan and coordinate their information technology. The chief information officer and the chief information officer of the North Dakota university system shall consider areas in which joint or coordinated information technology may result in more efficient and effective state government operations.



Doran Eberle
Director

Software Development
Division





Application Security- Discovery

- **Security vulnerability scanning progress using AppScan:**
 - Vulnerability scans completed: 19 - Java applications (ITD written)
 - Vulnerability scans remaining: 8 - Java applications (ITD written)
 - Plan to complete application assessment for ITD written .Net applications by Q1-2015



Application Security- Discovery

- This assessment will provide the priority list to begin vulnerability scans for ITD written .Net applications
- Vulnerability scans completed: 2 - .Net applications (ITD written)
- Plan to establish AppScan schedule for annual/semi-annual application scans
- Anticipate assessing and scanning vendor written applications after ITD written applications are scanned and remediated



Application Security- Discovery

- Based on current workload we are willing to assess and scan vendor written applications at customers request (standard developer rates apply)



Application Security- Discovery

- **Security vulnerability discovery – Ethical Hacking:**
 - **Ethical hacking** is a term used to describe hacking performed to help identify potential threats within an application. An ethical hacker attempts to bypass system security and search for any weak points that could be exploited by malicious hackers.



Application Security- Discovery

- This information is then used to improve the system security, in an effort to minimize or eliminate, any potential attacks.
- As part of the process to determine the validity of AppScan identified vulnerabilities, ITD development staff will perform additional exploration of potential threats
- ITD plans to use additional penetration testing tools as well as attempting to exploit common application design and coding vulnerabilities



Application Security- Discovery

- To date, ITD developers have performed these penetration test on the most recently scanned applications
- We will continue to follow ever changing attack vectors and adjust the security vulnerability discovery methods



Application Security- Remediation

- **Security vulnerability remediation progress:**
 - Application remediation completed 5 - Java applications (ITD written)
 - While most remediation can be addressed with code fixes, often the best solution will require design considerations.
 - Establishing a small, specifically focused remediation group of developers to accelerate the remediation backlog



Application Security- Remediation

- Additionally, this group will provide mentorship to the Software Development Division on security best practices throughout the entire Software Development Lifecycle



Application Security- Remediation

- **Remediation Urgency**
 - All security issues are important and of high priority
 - Through internal education and customer communication we continue to improve our expertise at identifying the level of probability of a vulnerability being exploited
 - Will balance finishing the complete discovery per application versus coming to you after each unique vulnerability



NDDOT Vehicle Registration Renewal Mobile Application

- **Application Features:**
 - **Developed as a hybrid-mobile application**
 - Create native mobile applications
 - Publish to Apple, Google and Microsoft app stores
 - Utilize standard web technologies
 - **Provides a User Interface/User Experience designed specifically for mobile devices**



NDDOT Vehicle Registration Renewal Mobile Application

- **Matches the functionality provided by current web application**
 - Vehicle / Invoice Lookup
 - Maintain Vehicle Owner Information – Contact / Address
 - Credit Card Payment
- **Utilizes mobile push notification**



Implementation and Toolsets Mobile Application

- **Platform**
 - Ionic Framework
 - Open source hybrid mobile toolset
- **Built-on**
 - Apache Cordova
 - AngularJS
- **User Interface**
 - HTML5/CSS3/JavaScript + Native Plugins
 - Completely managed within the application





Implementation and Toolsets Back-end Web Application

- **Data**
 - REST-based web services calls
 - All data is validated and stored by backend service
- **Native Functionality**
 - Device specific push notifications
- **Java – WebSphere**

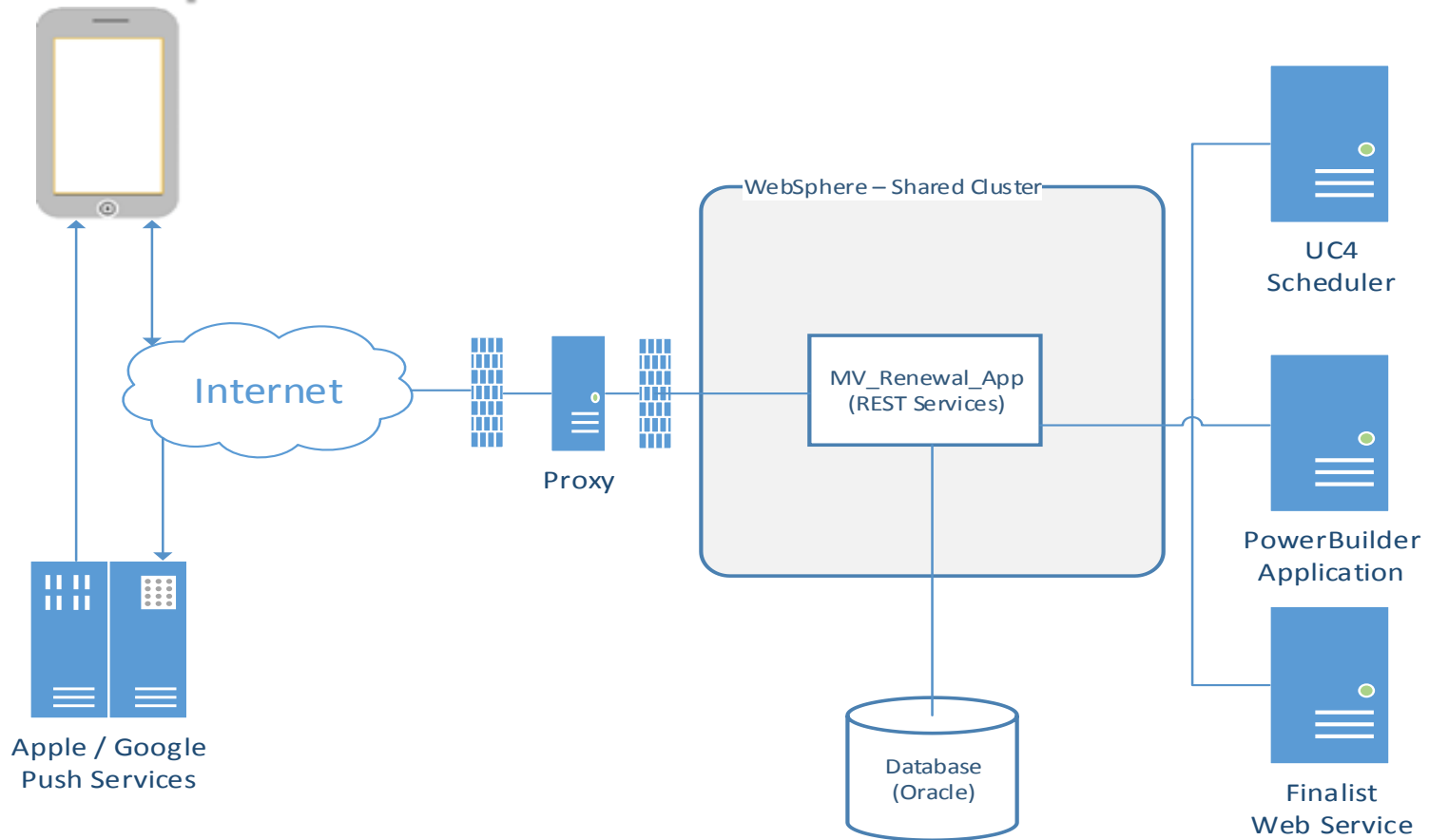


Implementation and Toolsets Back-end Web Application

- **Extends Existing Web Application**
 - Business Logic
 - Database
 - Credit Card Processing
- **New Service Layer**
 - Spring Framework
 - REST Web Service API layer



Conceptual Architecture





Demo



Duane Schell **Director**

Network Services **Division**





IDS/IPS Project

- Devices embedded with network core
- Improved security between sites
 - All traffic that passes through a network quadrant core is scanned for threats
 - Provides protection from:
 - Internet
 - Internal threats





Wireless

- 802.11 wireless - STAGEnet Member and Guest
- Wireless Standards:
 - 802.11 b - 11mbps - 2.4 GHz spectrum
 - 802.11 a - 54mbps - 5.0 GHz spectrum
 - 802.11 g - 54mbps - 2.4 GHz spectrum
 - 802.11 n - 600mbps - Both spectrums
 - 802.11 ac - excess 1gbps - 5.0 Ghz





Wireless

- Current State
 - 802.11 abg - virtually everywhere
 - 802.11 n - capital campus and new site
- Future State
 - Include support for 802.11 ac
 - Support for higher bandwidth solutions
 - After session for deployment





Voice Mail

- System upgrade
- Postponed until after session

AVAYA



Dean Glatt
Director

Computer Systems
Division





Windows 7 → Windows 8.1 → Windows 10

- Windows 7 -
 - Mainstream Support End Date: Jan 15, 2013
 - Extended Support End Date: Jan 14, 2020
- Windows 8.1 -
 - Goal: to make tablets part of a continuum that goes from number-crunching workstations and high-end gaming rigs through all-in-one touchscreen media systems and notebooks down to touch tablets.
- Windows 10 - One Platform & Product Family (expected rel Oct 2015)
 - Could possibly be free for Win 8 users

A promotional image for Windows 10. It features a large monitor on the left displaying the time 09:30 and the name "Studio C". To the right of the monitor is the Windows 10 logo and the text "Windows 10". Below these, a row of various devices (smartphones, tablets, laptops, and desktop monitors) are shown on a wooden desk, all displaying the Windows 10 interface. At the bottom, three phrases are listed: "One product family", "One platform", and "One store". Below these phrases is a white box containing the text "One operating system designed with every device in mind".

09 : 30
Studio C

Windows 10

One product family One platform One store

One operating system designed with every device in mind



What to watch through the Windows

- Not so much about features
- Most importantly - understand the impact of the Onedrive and Online Services integration
- Impact to your agency requires underlying technologies to be in place before you can realize full benefits: OneDrive, Sharepoint, Active Directory
- Skydrive now called Onedrive
- Requirements of Sharepoint
 - Sharepoint Online (SPO) and on premises integration
 - Security, file space limits, number of files



Cont.

- 8.1 started Onedrive integration and WindWindows ows 10 will drive its necessity. Watch for tight integration with Office 365.
- Don't think of Windows 10 as a desktop system, it is an integral tool for using "the internet of things".
- Applies to personal and business users.
- Onedrive for Business - need to study and implement
 - Security: Active Directory, nd.gov and encryption
 - Performance over public internet
 - Legalese: Terms and conditions, limitations of liability, etc. Cannot venture into production without this.



Mainframe Processor Upgrade

- Regular replacement cycle
- Same ITD rates
- Will yield faster job completion times
- Larger caches – eliminates paging
- 36% faster zIIP engine
- 24GB RAM
- Install date pending (2 hr outage)





Desktop Service Update

- Rate Structure
- What would service entail
- Service Group



Desktop Service Update

Types of services:

Procurement of new hardware—Desktops/Laptops/Monitors/Peripherals

PC Lifecycle Management

Microsoft Licensing— OS and Office

Inventory and Asset Management

Enterprise Client Management

Image Deployment and Management

Software Deployments

Operating System Patching

Anti-Virus/Spyware

Endpoint Encryption

Virtual Private Networks (VPN) config and support

Print Queue Management and configuration

Mobile Device Setup and Management—Smartphones/Tablets/PDA

Active Directory Account and Group Policy Management - Password resets

File and Folder level access management

Remote and On-site Support from qualified support technicians



Greg Hoffman
Director

Administrative
Services





Microsoft Software Assurance Renewals

- Enterprise or Select Plus Agreements
- 3-year agreement
- Office 365 considerations
 - Office Professional license
 - Windows OS license
- Positioning/Purchasing for Cloud



ITD Billing System Rewrite

- Mostly on track for July 1st, 2015
- Data Processing/Micrographics
- Telecom
- Training classes/webinar



Invoices

Search Criteria

Invoice Number:

Search

Departments:

- ☐ 325.0 - Department of Human Services
- ☐ 325.1 - NW Human Service Center
- ☐ 325.2 - NC Human Service Center
- ☐ 325.3 - Lake Region Human Service Center
- ☐ 325.4 - NE Human Service Center
- ☐ 325.5 - SE Human Service Center
- ☐ 325.6 - South Central Human Service Center
- ☐ 325.7 - West Central Human Service Center
- ☐ 325.8 - Badlands Human Service Center

System:

- ☒ Data Processing
- ☒ Telecommunications

Bill Month Range:

-

Clear

Search

Expand to: [Customer Number](#) / [Bill Month](#) / [All](#)

Customer Number <input type="text"/>		Bill Month <input type="text"/>			
Customer Number	Bill Month	System	Type	Invoice Number	Amount
325.0 - Department of Human Services					\$63,067.01
> Bill Month: 04/2014					\$32,761.62
< Bill Month: 03/2014					\$11,542.46
325.0	03/2014	Data Processing	End of Month	DP032014.325.0	\$2,293.85
325.0	03/2014	Telecommunications	End of Month	TC032014.325.0	\$9,248.61
> Bill Month: 02/2014					\$10,000.00
> Bill Month: 03/2013					\$8,762.93
325.1 - NW Human Service Center					\$16,588.55
> Bill Month: 04/2014					\$7,635.81
> Bill Month: 03/2013					\$8,952.74
Total:					\$79,655.56
1					



North Dakota Information Technology Department



Information Technology
Department

Invoices Charges **Reports** Reference Objects My Departments

Search Criteria

Invoice Number:

Departments:
☐ 325.0 - Depart
☐ 325.1 - NW Hun
☐ 325.2 - NC Hun
☐ 325.3 - Lake Re
☐ 325.4 - NE Hun
☐ 325.5 - SE Hun
☐ 325.6 - South C
☐ 325.7 - West C
☐ 325.8 - Badland

System:
☒ Data Processing
☒ Telecommunica

Bill Month Range:

General
Bill Code Trends
Billing Summary by Accounting Code
Credits
Misc. Charges

CPU Usage
ADABAS CPU Usage
AS/400 CPU Usage
Batch CPU Usage
CICS CPU Usage
TSO CPU Usage

Disk Storage
AS/400 Disk Storage
Mainframe Disk Storage
Open Systems Disk Storage
TSM Disk Storage

Misc.
Application and Server Hosting Charges
Time Entry Charges
WAN Access Charges

Telecom
Call History
800 Service Charges
Calling Card Charges
Conference Call Charges
Long Distance & Directory Assistance Charges

Invoices

Customer Number / Bill Month / All

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[Home](#) [✕ Imports](#) [✕ Issues](#) [Charges](#) [Credits](#) [Invoices](#) **[Reports](#)** [Reference Objects](#) [Settings](#) [Customers](#)

[Home](#) / [Reports](#)

Reports

Search Criteria

Report Selection:

Billing Summary by Accounting Code

Invoice No.:

Bill Month Range:

03/2014

-

03/2014

Accounting Code Select

Customer No.:

Division:

Charge Code:

Add

Selected Accounting Code(s):

Click Add to add selected accounting code to the search.

[+ Advanced Options](#)

Clear

Search



Gary Vetter
Director

Enterprise Services
Division

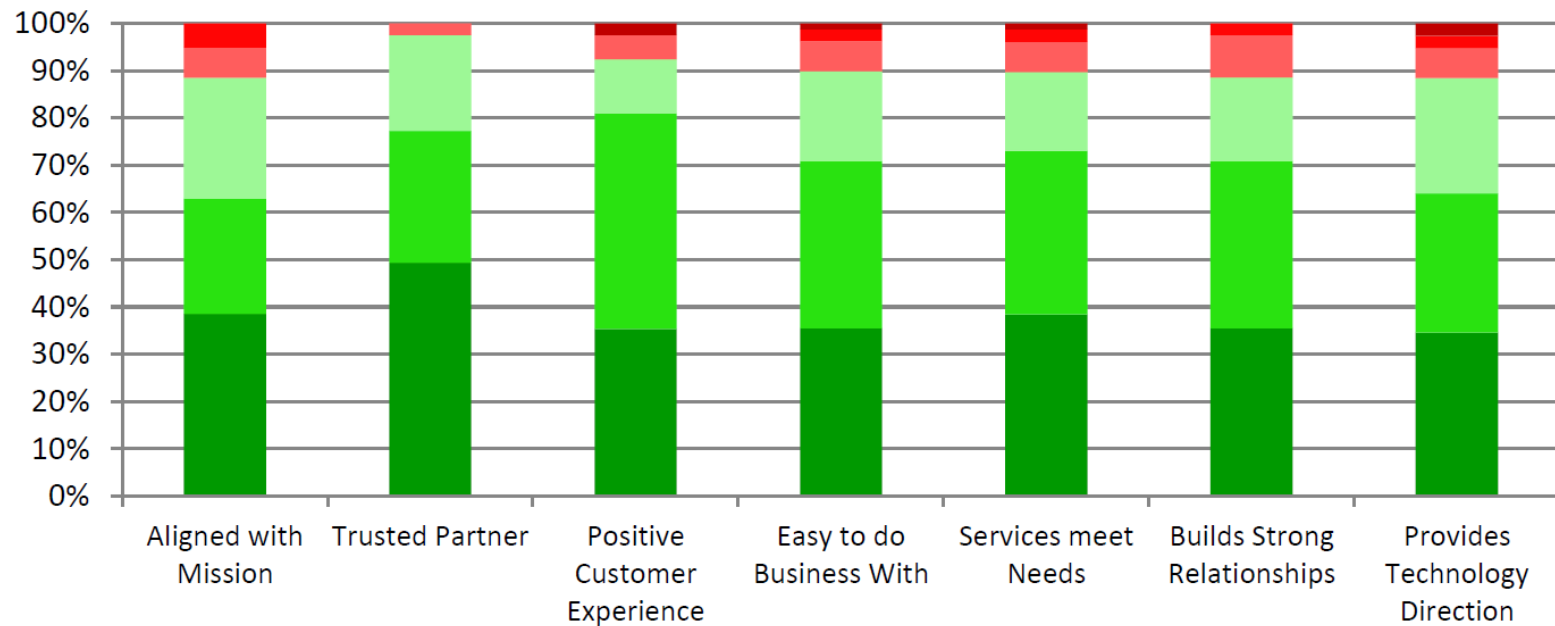




State of North Dakota
Information Technology Department
2014 Customer Survey

- Strongly Disagree
- Mostly Disagree
- Somewhat Disagree
- Somewhat Agree
- Mostly Agree
- Strongly Agree

Key Performance Indicators



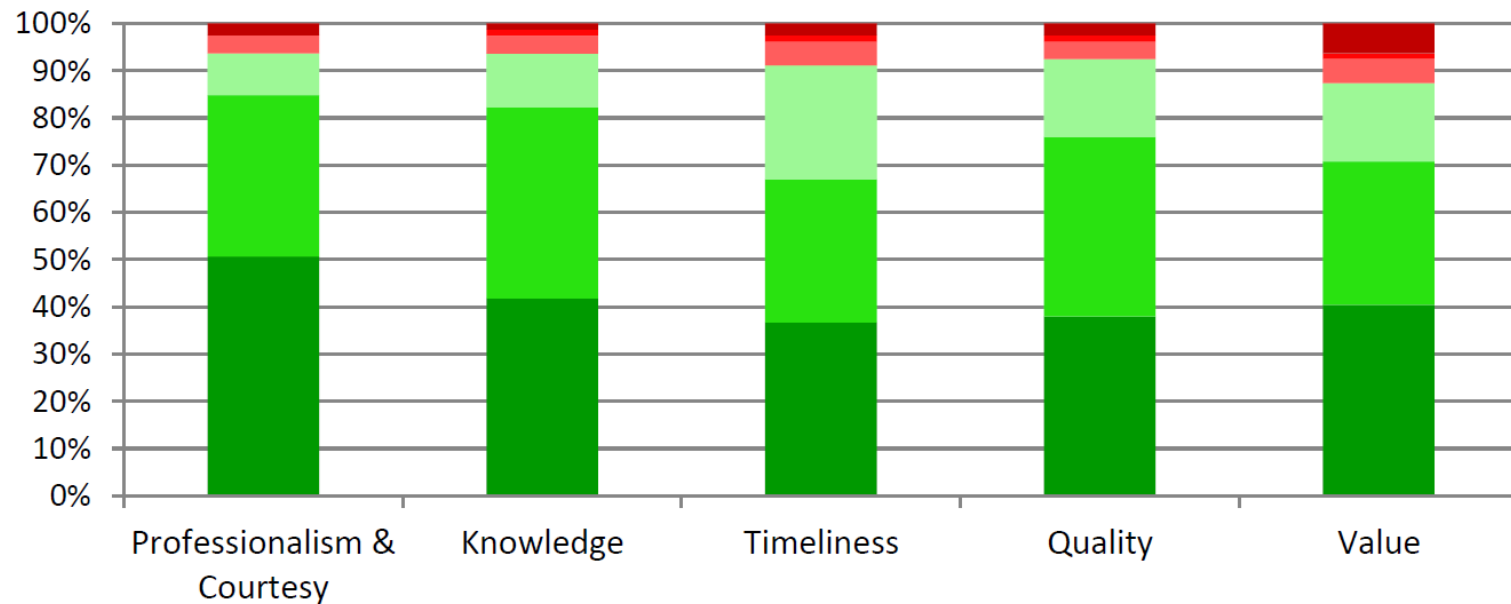
Average Respondents: 79



State of North Dakota
Information Technology Department
2014 Customer Survey

- Very Dissatisfied
- Mostly Dissatisfied
- Somewhat Dissatisfied
- Somewhat Satisfied
- Mostly Satisfied
- Very Satisfied

Customer Satisfaction Indexes



Average Respondents: 79



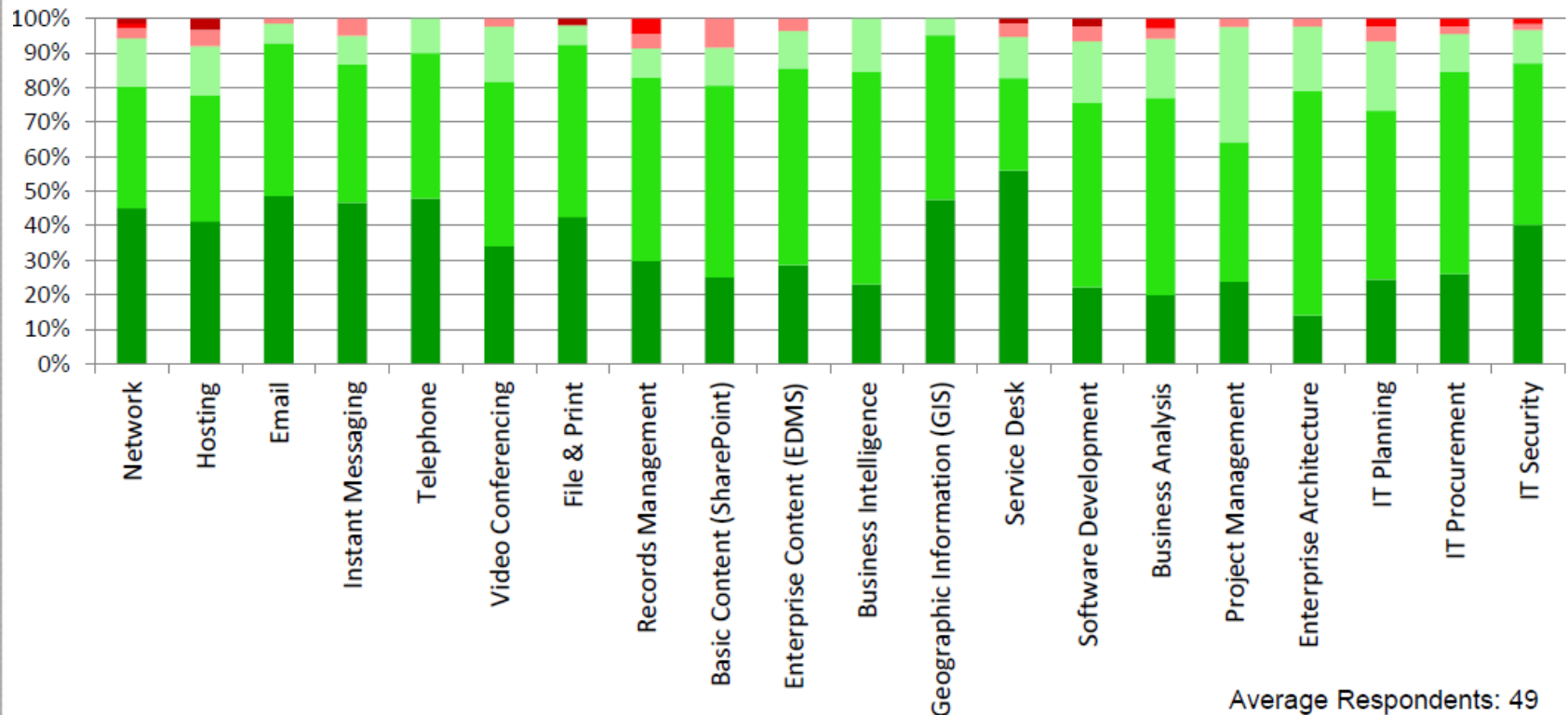
North Dakota Information Technology Department



State of North Dakota
Information Technology Department
2014 Customer Survey

- Very Dissatisfied
- Mostly Dissatisfied
- Somewhat Dissatisfied
- Somewhat Satisfied
- Mostly Satisfied
- Very Satisfied

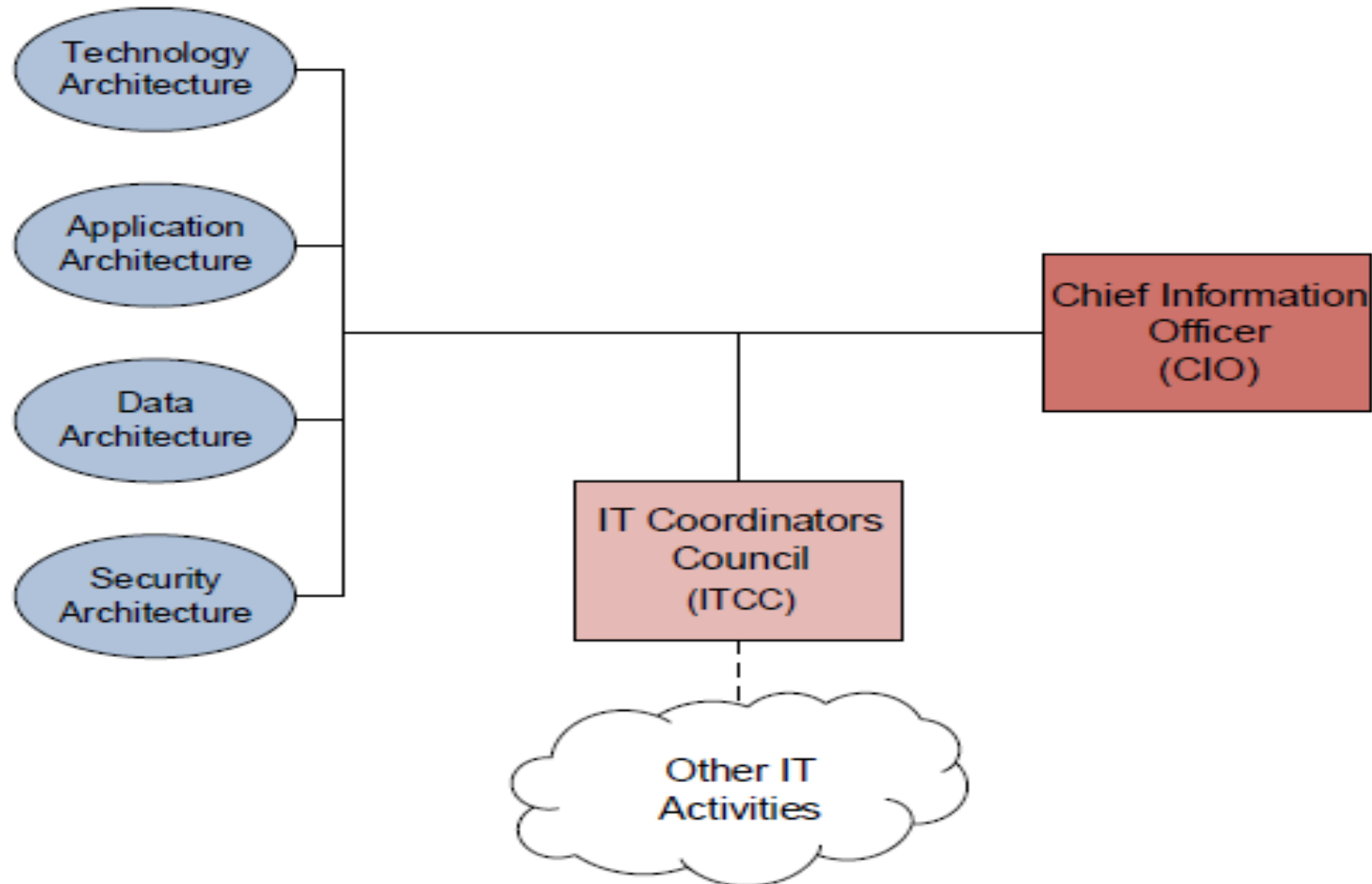
Services



Average Respondents: 49



Enterprise Architecture 2.0





North Dakota Login



North Dakota
login

Already Registered - [Not sure?](#)

North Dakota Login:

[Forgot Login](#)

Password:

[Forgot Password](#)

Login

[Update your account](#)

New to North Dakota Online Services?

Register Now!

Benefits of North Dakota Login

- One North Dakota Login and password to access multiple [ND Online Services](#)
- Register once for secure access to State services

Need help? Read through the [FAQ](#).

For assistance with this North Dakota Login, contact the [Service Desk](#).

Public On-Line Services User Authentication Standard

- *New applications that provide authenticated public access to state on-line services shall use a State of North Dakota Login ID. (2005)*



- Upgrading IT Service Management platform
- From ITSM to HEAT 2014
- Go-live in December/January
- Enterprise opportunities (ServiceND)



Cloud Initiatives



2007-2009
2009-2011
2011-2013
2013-2015
2015-2017 Strategic Plan
2017-2019
2019-2021
2021-2023
2023-2025

www.nd.gov/itd

Our Mission:

To provide leadership and knowledge to assist our customers in achieving their mission through the innovative use of information technology.



- Communication
- Rate Structure
- Decision-making Framework
- Procurement Practices
- Brokering Role
- Architecture
- Staffing Implications



THANK YOU!!!